BUREAU OF LAND MANAGEMENT
MILES CITY FIELD OFFICE
ENVIRONMENTAL ASSESSMENT (EA)
FOR
Fidelity Exploration & Production Co.
Tongue River Badger Hills Project
PLAN OF DEVELOPMENT
MT-020-2003-327

INTRODUCTION: This site-specific analysis is tiered from and incorporates by reference the information and analyses contained in the *Montana Statewide Final Oil and Gas EIS and Amendment of the Powder River and Billings RMPS* (Statewide FEIS) approved April 30, 2003, pursuant to 40 CFR 1508.28 and 1502.21. This project EA addresses site-specific resources and/or site specific impacts that are not covered within the FEIS.

PROPOSED ACTION TITLE/TYPE: Fidelity Exploration and Production Company (Fidelity) obtained approval from the MBOGC to expand the CX Field by approximately 5500 acres. Fidelity proposes to develop coal bed natural gas (CBNG) resources in the expanded field by drilling approximately 178 new wells. Of these 178 wells, 85 are federal minerals under the regulatory jurisdiction of the Bureau of Land Management (BLM). The remaining wells are under the regulatory jurisdiction of Montana Board of Oil and Gas Conservation and on privately owned minerals. The federal proposed wells underlie private surface. Additionally, one existing federal CBNG well would be connected for production. Federal 11D3-2790 on Lease MTM62338, is located in the NWNW of section 27 in T 9S, R40E.

The proposed action for drilling operations is to drill vertical wells to test the Carney, Monarch and Dietz coal zones for commercial quantities of gas. CBNG produced water would be used to drill to approximately +/-60'. Surface casing would be set at +/-60' and cemented back to the surface. The wells would then be drilled using CBNG produced water and weighting material. Due to the low pressures encountered in the drilling of these wells, Blow Out Prevention equipment would not be required. A diverter would be required to control uphole pressures. A minimum of three centralizers on the production casing, spaced to afford maximum protection of the shallow coals and aquifers would be included in the approval of drilling operations. Production casing would then be set at total depth and cemented back to the surface using a one stage cementing program. The wells would be completed for production if commercial quantities of hydrocarbons are encountered. The wells would be plugged according to federal requirements when the wells are no longer needed. The one right-of-way proposed is located on BLM-administered surface. For analysis on the non-federal wells see the "Montana Board of Oil and Gas Conservation Environmental Assessment for Fidelity CX Field Expansion and Tongue River Badger Hills Project".

PROPOSED WELL INFORMATION: The 85 proposed federal wells within the POD and their legal location are as follows:

Name	Number	Legal Location	Lease Number
CONSOL FEDERAL	14C-2290	SWSW,22,T9S,R40E	MTM62338
CONSOL FEDERAL	14D1/2-2290	SWSW,22,T9S,R40E	MTM62338
CONSOL FEDERAL	14D3-2290	SWSW,22,T9S,R40E	MTM62338
CONSOL FEDERAL	14M-2290	SWSW,22,T9S,R40E	MTM62338
DECKER FEDERAL	11C-2790	NWNW,27,T9S,R40E	MTM62338
DECKER FEDERAL	11D1/2-2790	NWNW,27,T9S,R40E	MTM62338

DECKER FEDERAL	11M-2790	NWNW,27,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	12C-3590	SWNW,35,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	12D1-3590	SWNW,35,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	12D2-3590	SWNW,35,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	12D3-3590	SWNW,35,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	12M-3590	SWNW,35,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	34C-3490	SWSE,34,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	34D1-3490	SWSE,34,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	34D2-3490	SWSE,34,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	34D3-3490	SWSE,34,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	34M-3490	SWSE,34,T9S,R40E	MTM62338
SEVEN BROTHERS FEDERAL	31C-3590	NWNE, 35, T9S, R40E	MTM62338
VISBORG FEDERAL	31D1-3590	NWNE, 35, T9S, R40E	MTM62338
VISBORG FEDERAL	31D2-3590	NWNE, 35, T9S, R40E	MTM62338
VISBORG FEDERAL	31D3-3590	NWNE, 35, T9S, R40E	MTM62338
VISBORG FEDERAL	31M-3590	NWNE, 35, T9S, R40E	MTM62338
VISBORG FEDERAL	21C-2590	NENW,25,T9S,R40E	MTM62338
VISBORG FEDERAL	21D1-2590	NENW,25,T9S,R40E	MTM62338
VISBORG FEDERAL	21D2-2590	NENW,25,T9S,R40E	MTM62338
VISBORG FEDERAL	21D3-2590	NENW,25,T9S,R40E	MTM62338
VISBORG FEDERAL	21M-2590	NENW,25,T9S,R40E	MTM62338
VISBORG FEDERAL	32C-2590	SWNE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	32D1-2590	SWNE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	32D2-2590	SWNE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	32D3-2590	SWNE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	32M-2590	SWNE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	33C-2590	NWSE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	33D1-2590	NWSE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	33D2-2590	NWSE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	33D3-2590	NWSE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	33M-2590	NWSE,25,T9S,R40E	MTM62338
VISBORG FEDERAL	34C-2690	SWSE,26,T9S,R40E	MTM62338
VISBORG FEDERAL	34D1-2690	SWSE,26,T9S,R40E	MTM62338
VISBORG FEDERAL	34D2-2690	SWSE,26,T9S,R40E	MTM62338
VISBORG FEDERAL	34D3-2690	SWSE,26,T9S,R40E	MTM62338
VISBORG FEDERAL	34M-2690	SWSE,26,T9S,R40E	MTM62338
VISBORG FEDERAL	12C-3191	SWNW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	12D1-3191	SWNW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	12D2-3191	SWNW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	12D3-3191	SWNW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	12M-3191	SWNW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	13C-3191	NWSW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	13D1-3191	NWSW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	13D2-3191	NWSW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	13D3-3191	NWSW,31,T9S,R41E	MTM62340
VISBORG FEDERAL	13M-3191	NWSW,31,T9S,R41E	MTM62340

VISBORG FEDERAL	34C-3191	SWSE,31,T9S,R41E	MTM62340
VISBORG FEDERAL	34D2-3191	SWSE,31,T9S,R41E	MTM62340
VISBORG FEDERAL	34D3-3191	SWSE,31,T9S,R41E	MTM62340
VISBORG FEDERAL	34M-3191	SWSE,31,T9S,R41E	MTM62340
VISBORG FEDERAL	44D1-3191	SWSE,31,T9S,R41E	MTM62340
HOLMES FEDERAL	13C-3091	NWSW,30,T9S,R41E	MTM62340
HOLMES FEDERAL	13D1-3091	NWSW,30,T9S,R41E	MTM62340
HOLMES FEDERAL	13D2-3091	NWSW,30,T9S,R41E	MTM62340
HOLMES FEDERAL	13D3-3091	NWSW,30,T9S,R41E	MTM62340
HOLMES FEDERAL	13M-3091	NWSW,30,T9S,R41E	MTM62340
HOLMES FEDERAL	12C-3091	SWNW,30,T9S,R41E	MTM79455
HOLMES FEDERAL	12D1-3091	SWNW,30,T9S,R41E	MTM79455
HOLMES FEDERAL	12D2-3091	SWNW,30,T9S,R41E	MTM79455
HOLMES FEDERAL	12D3-3091	SWNW,30,T9S,R41E	MTM79455
HOLMES FEDERAL	12M-3091	SWNW,30,T9S,R41E	MTM79455
CONSOL FEDERAL	34C-2190	SWSE,21,T9S,R40E	MTM83774
CONSOL FEDERAL	34D1/2-2190	SWSE,21,T9S,R40E	MTM83774
CONSOL FEDERAL	34D3-2190	SWSE,21,T9S,R40E	MTM83774
CONSOL FEDERAL	34M-2190	SWSE,21,T9S,R40E	MTM83774
VISBORG FEDERAL	14C-2590	SWSW,25,T9S,R40E	MTM83774
VISBORG FEDERAL	14D1-2590	SWSW,25,T9S,R40E	MTM83774
VISBORG FEDERAL	14D2-2590	SWSW,25,T9S,R40E	MTM83774
VISBORG FEDERAL	14D3-2590	SWSW,25,T9S,R40E	MTM83774
VISBORG FEDERAL	14M-2590	SWSW,25,T9S,R40E	MTM83774
VISBORG FEDERAL	42C-2690	SENE,26,T9S,R40E	MTM83774
VISBORG FEDERAL	42D1-2690	SENE,26,T9S,R40E	MTM83774
VISBORG FEDERAL	42D2-2690	SENE,26,T9S,R40E	MTM83774
VISBORG FEDERAL	42D3-2690	SENE,26,T9S,R40E	MTM83774
VISBORG FEDERAL	42M-2690	SENE,26,T9S,R40E	MTM83774
CONSOL FEDERAL	12C-2890	SWNW, 28, T9S,R40E	MTM87253
CONSOL FEDERAL	12D1/2-2890	SWNW,28,T9S,R40E	MTM87253
CONSOL FEDERAL	12D3-2890	SWNW,28,T9S,R40E	MTM87253
CONSOL FEDERAL	12M-2890	SWNW,28,T9S,R40E	MTM87253

COUNTY: Big Horn

APPLICANT: Fidelity Exploration and Production Co.

SURFACE OWNERS: Dixie Holmes, Decker Coal, Seven Brothers Ranch, Alfred & Deanna Visborg, Consol Coal, BLM-administered, Consol/Decker Coal

CONFORMANCE WITH APPLICABLE LAND USE PLAN: As required by 43 CFR 1610.5, the proposed action is in conformance with the terms and the conditions of the BLM 1984 *Powder River Resource Management Plan*, as amended by the 1994 BLM *Miles City District Oil and Gas EIS Amendment* and the BLM 2003 *Montana Statewide Oil and Gas EIS and Amendment of the Powder River and Billings RMPs.*

PURPOSE AND NEED FOR THE PROPOSED ACTION: The purpose for the proposal is to define and produce CBNG on federal oil and gas mineral leases issued to the applicant by the BLM. Analysis has determined that federal CBNG will be drained from the federal leases by surrounding fee or state mineral well development. The need exists in order to capture federal lease royalties.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES:

Proposed Action

Fidelity proposes the following. For a detailed description of design features, construction practices and water management strategies associated with the proposed action, refer to the Master Surface Use Plan, Drilling Plan and Water Management Plan in the Plan of Development (POD) and individual APDs. Also see the subject POD and/or APDs for maps showing the proposed well locations and associated facilities described above. More information on CBNG well drilling, production and standard practices is also available in the Statewide FEIS.

- Drill 85 federal CBNG wells in the Dietz, Carney, and Monarch coal zones to depths of approximately 1000 feet.

- An unimproved and improved road network.

- A water management plan that involves the following infrastructure and strategy:

  - A total of 178 new CBNG wells to be completed within the POD area. Of these new wells, 85 would be new federal wells, and one well would be an existing federal well that would be connected for production. These new wells would be in addition to the 246 existing CBNG wells in the CX field. The existing wells are discharging at an average rate of 4 gallons per minute (gpm), while the maximum discharge of the new wells is anticipated to be 14 gpm. It is anticipated that the discharge from the new wells would decrease at a rate of 20% per year, while the discharge from the existing wells would decrease at a rate of 30% per year. Thus the total project water production would increase from 984 gpm to a maximum of 3476 gpm, and a total discharge of 1021 gpm after 5 years.
  - The use of 4 outfalls to the Tongue River, under existing MPDES permit number MT 0030457 (most recently revised on 2/27/03). This permit allows for a total of 1600 gpm to be discharged. The 4 outfalls to be used for this project are identified in the MPDES permit as numbers 12, 13, 15, and 16. Of these, 12 and 13 are existing, while 15 and 16 would be new construction. These outfalls have been, or would be, installed in areas with low channel gradients to minimize erosional degradation. Additionally, each outfall structure would consist of a riprap pad surrounding the discharge pipe with a narrow riprap-lined trench sloping into the channel are to prevent erosion of the channel bank.
  - Piping 235 gpm to Spring Creek coal mine to be used beneficially.
  - Piping 370 gpm to Decker coal mine to be used beneficially.
  - The use of one existing and 4 newly constructed lined containment reservoirs to hold water over the winter months. Water would enter these basins at a maximum rate of 1271 gpm. These reservoirs are identified as 23-0299, 33-3390, 34-3490, 44-3490, and 22-3590. The capacity of these reservoirs would be 44.5, 4.14, 109, 288.3, and 122 Acre-feet respectively. This would provide a total of 568 acre-feet of storage. Reservoir 23-0299 may be enlarged to 204.5 Acre-feet depending on future needs.
  - During the summer, the water stored in the containment reservoirs, and produced water would be applied to 170 acres of cropland on the Seven Brothers Ranch, along Badger Creek. Irrigation with this water would require that soil amendments be added to the soils to prevent dispersion of the soils. Monitoring of the irrigated sites would be conducted to ensure that sufficient amendments are being applied to prevent impacts to soils.

- A buried gas and water network, an overhead and buried power line network, and five central gathering/metering and compression facilities, with associated required right-of-way.

Additionally, the Operator, in their Plan of Development, has committed to:

- Comply with all applicable Federal, State and Local laws and regulations.
- Obtain the necessary permits for the drilling, completion and production of these wells including water rights applications for irrigation and dust control, and the installation of water management facilities, water discharge permits, and relevant air quality permits.
- Provide water well agreements to the owners of record for permitted water wells within the area of influence of the action.
- Provide water analysis from a designated reference well in each coal zone.

The Operator has certified that a Surface Use Agreement has been reached with the Landowners.

BLM Preferred Alternative

The preferred alternative includes the proposed action above with the following exceptions. During field visits (on-sites) to each of the proposed locations, all areas of proposed surface disturbance were inspected to ensure that potential impacts to natural resources would be minimized. Alternatives to the different aspects of the proposed action are always considered and applied as pre-approval changes and/or Conditions of Approval (COAs), if they would alleviate or minimize environmental effects of the operator's proposal. The specific changes identified for the Tongue River-Badger Hills POD are listed as follows: **The Visborg Fed 34-3191 road was re-routed to reduce surface disturbance. The Seven Brothers Fed 12-3590 and Holmes Fed 13-3091 locations and roads were moved to reduce impacts to mule deer winter range.**

All of these changes to the proposed action were incorporated into BLM's Preferred Alternative as pre-approval changes to the operator's plans, or would be applied as site-specific COAs, which are found in the **Description of Proposed Mitigation Measures** section.

Also, there is a No Surface Occupancy stipulation for coal on the lease in T. 9 S., R. 40 E., section 21: S1/2SE1/4. The stipulation with Waivers, Exceptions and Modifications reads:

> **RESOURCE:** Coal
>
> **STIPULATION:** Surface occupancy and use is prohibited within existing coal leases with approved mining plans.
>
> **EXCEPTION:** An exception may be granted by the authorized officer if the operator submits a plan of operations which is compatible with existing or planned coal mining operations and is approved by all affected parties.
>
> **MODIFICATION:** The area affected by this stipulation may be modified by the authorized officer if it is determined that portions of the area are not needed for existing or planned mining operations, or where mining operations have been completed, and the modification is approved by all affected parties.
>
> **WAIVER:** This stipulation may be waived by the authorized officer of it is determined that all coal lease operations within the leasehold have been completed, or if the lease is terminated, canceled or relinquished.

Four of the wells proposed would be located within the stipulated area. Upon review of the records, it was found that the Decker Mine boundary, to which this stipulation applies, does not lie south of Highway 314. All of the proposed wells lie south of the highway. Therefore, BLM would apply a "modification" to the stipulation for the SW1/4SE1/4 of the section.

No Action Alternative

Under the "No Action" Alternative, no new federal wells, or their associated facilities, would be constructed. Thus under this alternative, the operator's proposal would be denied.

DESCRIPTION OF AFFECTED ENVIRONMENT:

Applications to drill were received on June 13, 2003. Field inspections of the proposed Tongue River-Badger Hills CBNG project were conducted on July 8, 2003.

TOPOGRAPHIC CHARACTERISTICS OF PROJECT AREA:

Air: Air quality is excellent throughout the region and in this area because of sparse population and limited industrial activity. This location has a Class II air quality rating allowing deterioration associated with moderate development and population growth.

Cultural Resources: Class III cultural resource inventories for the project were completed by Foothills Archaeology Consultants of Story, Wyoming between December 2002 and May 2003. A total of 240 block inventory acres and 160 acres of linear inventory were completed. No sites and one isolated find location were observed in the cultural resource inventories (See BLM Cultural Resources Report MT-020-03-72 and 72a at the MCFO for details). An additional infrastructure corridor was inventoried due to a move made during an onsite visit by the BLM. A total of four acres were inventoried for this action. No cultural resources were located during the project (see BLM Cultural Resources Report MT-020-03-290a for details.)

Invasive Species: No state-listed noxious weeds and invasive/exotic plant infestations were discovered by a search of inventory maps/databases or during subsequent field investigation by the proposed project proponent.

Lands and Realty: There is one existing BLM issued right-of-way in the NE¼SW¼, Section 26, T. 9 S., R. 40 E., in Big Horn County. The right-of-way is Big Horn County's RS 2477 Road Right-of-Way MTM-61090.

Soils: The soils in the project area have developed in alluvium and residuum derived from the Tongue River Member of the Tertiary Fort Union Formation and the Eocene Wasatch Formation. Lithology consists of light to dark yellow and tan siltstone and sandstones with coal seams in a matrix of shale. In many areas the near-surface coals have burned, baking the surrounding rock, producing red, hard fragments. Differences in lithology have produced the topographic and geomorphic variations seen in the area. Higher ridges and hills are often protected by an erosion-resistant cap of clinker or sandstone. Soils have surface and subsurface textures of silt loam and fine sandy loam. Soil depths vary from deep on lesser slopes to shallow and very shallow on steeper slopes. Soils are generally productive, though vary with texture, slope and other characteristics. There are no sodium salts present in large enough amounts to affect plant growth and productivity. Slopes may be as much as 75 percent though are generally 12 to 15 percent.

Surface & Groundwater: The project area is within the Tongue River and Badger Creek watersheds.

A water rights search for this area showed 41 registered stock and domestic water wells within a 1 mile radius of the POD area with completion depths ranging from 15 to 620 feet below ground surface (ft-BGS). For additional information on water, please refer to the Statewide FEIS (January 2003), Chapter 3, Affected Environment pages 3-22 through 3-39 (ground water).

If approved, 50 federal CBNG wells would be completed in the Deitz coal zone. These wells are projected to produce a maximum of 700 gpm. The quality for the water produced from the Deitz coal

zones is predicted to be similar to the sample water quality collected from other wells completed in the Deitz coal zones within the CX field. Analytical results from 11 of these wells show that Deitz water has an average electrical conductivity (EC) 2019 µmhos/cm with a standard deviation of 505 µmhos/cm**,** an average TDS of 1239 mg/l with a standard deviation of 292 mg/l, and an average SAR of 53 with a standards deviation of 5. By comparison, the National Drinking Water standard for TDS is 500 mg/l (secondary standard), while the limit for Livestock Use is 10,000 mg/L. The monthly average EC and SAR surface water standards set by the Montana Board of Environmental Quality for this section of the Tongue River are 1000 and 3 respectively. For complete analytical information, please refer to the Water Management Plan (WMP) included in the POD for this project.

If approved, 18 federal CBNG wells would be completed in the Monarch coal seam. These wells are projected to produce a maximum of 252 gpm. The quality for the water produced from the Monarch coal seam is predicted to be similar to the sample water quality collected from other wells completed in the Monarch coal seam within the CX field. Analytical results from 5 of these wells show that Monarch water has an average EC of 1966 µmhos/cm with a standard deviation of 709 µmhos/cm**,** an average TDS of 1165 mg/l with a standard deviation of 414 mg/l, and an average SAR of 72 with a standards deviation of 19. For complete analytical information, please refer to the Water Management Plan (WMP) included in the POD for this project.

If approved, 18 federal CBNG wells would be completed in the Carney coal seam. These wells are projected to produce a maximum of 252 gpm. The quality for the water produced from the Carney coal seam is predicted to be similar to the sample water quality collected from other wells completed in the Carney coal seam within the CX field. Analytical results from 11 of these wells show that Carney water has an average EC of 1959 µmhos/cm with a standard deviation of 571 µmhos/cm**,** an average TDS of 1180 mg/l with a standard deviation of 349 mg/l, and an average SAR of 61 with a standards deviation of 9. For complete analytical information, please refer to the Water Management Plan (WMP) included in the POD for this project.

A maximum volume of 14 gallons per minute (gpm) is projected to be produced from the 85 new federal wells, for a total of 1204 gpm of new production, and 3476 gpm for the CX field. The anticipated combined weighted average chemistry of the water to be discharged is an EC of 1987 µmhos/cm, a TDS of 1211 mg/l, and an SAR of 54 (calculated based upon the mean weighted Na, Ca, and Mg concentrations).

At the time of the onsite, the only live surface water within the POD boundary was the Tongue River. A USGS surface water monitoring station is located on the Tongue River on the southern edge of the POD, near the state line. This gaging station is downstream of some of the discharges allowed under Fidelity's discharge permit (MT 0030457), and upstream from others. The high mean monthly flow for the Tongue River at this station is 1638 cubic feet per second (cfs). At high mean monthly flows the EC of the Tongue River is approximately 266 µmhos/cm, and the SAR is approximately 0.3. The low mean monthly flow for the Tongue River at this station is 177 cubic feet per second (cfs). At low mean monthly flows, the EC of the Tongue River is approximately 651 µmhos/cm, and the SAR is approximately 0.7. The 7Q10 flow (the lowest flow that would be expected to be seen for seven consecutive days over any 10 year period, which is determined statistically based on the period of record) for the Tongue River at this station is 43.2 cubic feet per second (cfs). At 7Q10 flows the EC of the Tongue River is approximately 1148 µmhos/cm, and the SAR is approximately 1.3. The Montana Department of Environmental Quality (MDEQ) did not list this portion of the Tongue River on its 303(d) list for impaired streams under the Clean Water Act. For more information regarding surface water, please refer to the Statewide FEIS Chapter 3, Affected Environment, pages 3-22 through 3-31.

Vegetation: Species typical of short grass prairie comprise the project area flora. Specific species observed throughout the project area include sage, thickspike wheatgrass, prickly pear cactus, needle and thread, green needlegrass, and western wheatgrass. Differences in dominant species within the project area vary with soil type, aspect and topography. There are no known threatened or endangered plant

species in the project area.

Wildlife: Fidelity has contracted with Hayden-Wing Associates(H-W) to develop a Wildlife Monitoring and Mitigation Plan for the project area. These surveys were conducted in accordance with requirements set forth in the CBNG Programmatic Wildlife Monitoring and Protection Plan (WMMP) for the Statewide FEIS. Included in H-W's WMPP is information concerning their surveys for raptors including bald eagles, prairie grouse, black-tailed prairie dogs, mountain plover, and black-footed ferret. The following is a summary of wildlife habitat values, including information gathered by H-W, in the project area.

Mule deer are found year round in the project area and portions of the area including the Tongue River Breaks and associated drainages are considered important winter range. White-tailed deer are very common, especially along the Tongue River and adjacent side drainages. Antelope are common but not as large in numbers as deer. There is a small herd of elk steadily expanding into the project area vicinity but their movements and numbers are not well understood (J. Ensign, MDFWP, pers. comm.). BLM surveys indicate they are year-round residents and frequent the area from the Tongue River along the state line east to the Badger Hills and north into the river breaks northeast of Tongue River Reservoir towards the Custer National Forest. Other big game, including black bear and mountain lion, pass through the area occasionally.

Prairie grouse, including sharp-tailed and sage grouse, a Montana BLM Special Status Species (SSS), are found throughout the project area. There are five known (active/historic) sharptailed grouse leks within 2 miles of proposed well locations in this project. There is one known active and one historic sage grouse lek within two miles of proposed well locations. There is considerable sage grouse nesting activity in the project area (B. Walker, U of M graduate student, pers. comm.). Wild turkeys are also year-round residents and nest throughout the ponderosa pine uplands and riparian areas.

Many species of raptors nest within the project area. Active nests/territories have been identified for red-tailed hawk, prairie falcon, burrowing (SSS) and great-horned owl and golden eagle. Bald eagles are the only know Federally-Designated Threatened or Endangered species inhabiting this area. There is an active bald eagle nest within the project area. (Note: this nest is located on private surface/mineral estate. The nearest proposed federal mineral activity is about one mile from the nest location. There is an active Fidelity fee well within ½ mile of the nest.). Bald eagles commonly migrate through the Tongue River valley and will winter in the river corridor as long as open water and forage remains available.

There are three black-tailed prairie dog (SSS) towns within the immediate project area although none of these are located on federal surface/mineral estate. Although habitat is available, surveys conducted by H-W identified no mountain plover or black-footed ferret activity. No burrowing owl activity was observed on active prairie dog towns in the project area. The Tongue River and Badger Creek are perennial waters that bisect the project area. The Tongue River supports many species of fish including smallmouth bass, sauger and catfish. The northern leopard frog and spiny softshell turtle (SSS) are common in and along the Tongue River and many of its tributaries.

The Montana Natural Heritage Program identified 104 species of birds inhabiting this portion of Southeast Montana and another 55 species as probable/possible inhabitants (Carlsen and Cooper, 2003). BLM commissioned 2 breeding bird surveys in the area of the project in 2001 and 2003. Ten transects recorded 62 species of which western meadowlarks, lark/vesper/clay-collared/Brewer's sparrows and Brewer's blackbirds and brown-headed cowbirds were the most common species represented. There are active great blue heron and double-breasted cormorant rookeries within one mile of the project area. These rookeries are located on private surface/mineral estate. There are many Montana bird species of special concern that may occur in the area. These either are in very low numbers or simply have not been documented at this time. These may include, but not limited to, ferruginous and Swainson's hawks, hairy woodpecker, loggerhead shrike, sage sparrow, etc.

Critical elements requiring mandatory evaluation are presented below.

Mandatory Item	Potentially Impacted	No Impact	Not Present On Site	BLM Evaluator
Threatened and Endangered Species		X		Larry Rau
Floodplains			X	Robert Mitchell
Wilderness Values			X	Randy Nordsven
ACECs			X	Randy Nordsven
Water Resources	X			Andy Bobst
Air Quality	X			Robert Mitchell
Cultural or Historical Values			X	Doug Melton
Prime or Unique Farmlands			X	Randy Nordsven
Wild & Scenic Rivers			X	Randy Nordsven
Wetland/Riparian			X	Dawn Doran
Native American Religious Concerns		X		Doug Melton
Wastes, Hazardous or Solids		X		Randy Nordsven
Invasive, Nonnative Species	X			Brenda Witkowski
Environmental Justice		X		Randy Nordsven

ENVIRONMENTAL CONSEQUENCES:

Impacts from the Proposed Action:

Air: Air quality may deteriorate slightly in the immediate vicinity of the project during drilling and production activities. Activities may result in a temporary increase in airborne dust and gaseous emissions when a site is being worked in the drilling phase. Maximum emissions and concentrations are expected to be within state increments and federal PSD Class II increments. The closest PSD Class I airshed is the Northern Cheyenne Indian Reservation at a distance of approximately 20 miles. For potential effects and distances to other Class I and II airsheds see the Statewide FEIS, Volume I, Chapter 4, Air and Volume II, Air Appendix. Fugitive dust and emissions during the production phase could contribute to intermittent air quality deterioration due to vehicle traffic and windstorms at the well sites and along roads leading to the sites.

Mitigation includes implementation of speed limits on unpaved roads to reduce dust emissions, installation of equipment to minimize travel to individual well sites, and use of natural gas to fire compressor engines. Gas venting is minimized by regulatory requirement prohibiting venting of commercial quantities of gas. Some gas emission from boreholes drilled as monitor wells, mineral exploration holes and other holes of unknown origin may occur. Mitigation measures for dust control are addressed in the attached conditions of approval (F-6). For impacts from mitigation measures and effectiveness of these measures, see the Statewide FEIS, Volume II, page Air-32. No compressors are proposed for this site which would keep emission levels beneath those requiring a permit.

Cultural Resources: Based on the inventory results, the proposed project would have no effect on sites that are listed on, or that may be eligible for listing on the National Register of Historic Places. If any cultural values [sites, artifacts, human remains (Appendix FEIS)] are observed during operation of this lease/permit/right-of-way, they would be left intact and the Miles City Field Manager notified. Further discovery procedures are explained in the Conditions of Approval (COAs) found at the end of this document.

Invasive Species: Utilization of existing facilities and surface disturbance associated with construction of proposed access roads, pipelines, water management infrastructure, produced water discharge points and related facilities would present opportunities for weed invasion and spread. Produced CBNG water

would likely continue to modify existing soil moisture and soil chemistry regimes in the areas of water release and storage. The activities related to the performance of the proposed project would create a favorable environment for the establishment and spread of noxious weeds/invasive plants such as salt cedar, Canada thistle and perennial pepperweed. However, mitigation as required by BLM applied COAs would ensure that potential impacts from noxious weeds and invasive plants would be minimal.

Lands and Realty: A right-of-way would be required for five three-inch buried poly gas lines, one buried three-inch water line, and one plowed in 3-phase, 75 KV, powerline in the NE¼SW¼, Section 26, T. 9 S., R. 40 E. The right-of-way will be 900 feet long, 30 feet wide and consist of .62 acres, more or less. The gas and water lines would be in one 22" to 36" wide five-foot deep trench , and the powerline would be plowed in 24" deep alongside and 15 feet from the pipeline trench with a 6" disturbed area, for a total disturbed area of .072 acre. The right-of-way would be granted under Section 28 of the Mineral Leasing Act of 1920, as amended (MLA), and the pipelines and power line would be constructed, used, maintained, and terminated in conformance with the company's plan of development and subject to the Right-of-Way Stipulations in the COAs.

Soils & Vegetation: Overall impacts to vegetation and soils from surface disturbance should be minor, based on the operator's plans and BLM applied mitigation. All of the 85 proposed wells can be drilled without a well pad being constructed. As such, minor surface disturbance would occur with the drilling of these wells. This disturbance would only involve digging-out of rig wheel wells (for leveling drill rig on minor slopes), reserve pit construction (estimated approximate size of 10 x 30 feet), and compaction (from vehicles driving/parking at the drill site). Estimated disturbance associated with these 85 wells would involve approximately 0.1 acre/well for 8.5 total acres. This should be a short term, minor impact with expedient, successful reclamation and site-stabilization, as committed to by the operator in their POD Surface Use Plan and as required by BLM in the COAs.

Approximately 4.4 miles of improved roads would be constructed to provide access to various production facilities. Approximately 10 miles of new and 12 miles of existing two-track trails would be used to access well sites. Soil productivity would be eliminated along improved roads and severely restricted along two tracks. The majority of proposed pipelines (gas and water) have been located in "disturbance corridors." Disturbance corridors involve the combining of 2 or more utility lines (water, gas, power) in a common trench, usually along access routes. Approximately 3.5 miles of pipeline would be constructed outside of corridors as no additional utility lines would be needed for a "corridor" placement. Short term soil erosion by wind and water could affect soil health and productivity. Expedient reclamation of disturbed land with stockpiled topsoil, proper seedbed preparation techniques, and appropriate seed mixes, along with utilization of erosion control measures (e.g., waterbars, water wings, culverts, rip-rap, gabions etc.) would ensure effects to soil productivity and stability is minimized.

Surface & Ground Water: The operator has submitted a comprehensive Water Management Plan (WMP) for this project. It is incorporated by reference into this EA pursuant to 40 CFR 1502.21. The WMP incorporates sound water management practices, monitoring of downstream impacts to the Tongue River and commitment to comply with Montana State water laws/regulations. It also addresses potential impacts to the environment and landowner concerns. As the discharges to the Tongue River have been evaluated against all applicable standards at the time of permit issuance, it is not anticipated that these discharges would cause impacts to beneficial uses of the surface waters as a result of the parameters for which there were narrative or numeric standards at that time (February of 2003). However, since that time, the Montana Board of Environmental Quality has adopted numeric surface water standards for EC and SAR. As these parameters were not addressed in the permit, they would be the focus of the analysis in this EA. Qualified hydrologists, in consultation with the BLM, developed the water management plan. Adherence to the plan, in addition to BLM applied mitigation (in the form of COAs), should minimize project area and downstream potential impacts from proposed water management strategies. The MDEQ has assumed primacy from the United States Environmental Protection Agency for maintaining the water quality in the waters of the State. The Montana Department of Natural Resources and Conservation (DNRC) has authority for permitting impoundments for the containment of surface waters of the state

(see RODs for MDEQ and MBOGC).

The maximum water production is predicted to be 14 gpm per well or 2492 gpm (5.55 cfs or 3921 acre-feet per year) for all 178 wells for this POD. As the water produced from this POD would be manifolded with the water being produced from the existing 246 wells in the Tongue River Project Area, a total maximum of 3476 gpm (7.74 cfs or 5469 acre-feet per year) would need to be managed. Of the water produced up to 1600 gpm (3.6 cfs) would be piped to the Tongue River and discharged under the existing MPDES permit (MT 0030457). The remainder would be stored in lined off-drainage impoundments during the winter and used for irrigation during the summer, or piped to local coal mines to be used beneficially. As no water would be discharged to ephemeral drainages, no on-drainage impoundments are going to be used, and all impoundments are going to be lined, infiltration and conveyance losses would not be issues for this project. Infiltration of water from the Tongue River would occur; however as the surface water standards have been developed to protect surface water quality, the infiltration of Tongue River water into the underlying alluvial aquifer after mixing with the CBNG produced water would not cause noticeable impacts. The Statewide FEIS projected the maximum amount of water that was anticipated to be produced from CBNG development at each surface water station (Table 4-46 on page 4-85 of the Statewide FEIS). For the USGS station on the Tongue River at the state line, the projected maximum volume of produced water was 5 cfs (3621 acre-feet/year). The maximum production is estimated to occur in 2006. As such, the volume of water resulting from the production of these wells is 71% of the total maximum projected volume. This volume of produced water is within the predicted parameters of the Statewide FEIS.

Based on the analysis performed in the Statewide FEIS, the primary beneficial use of the surface water in the Upper Tongue River Watershed is the irrigation of crops (99% of reported surface water use) (Table 3-5 on page 3-28 of the Statewide FEIS). The surface water quality projected to result from the discharge associated with this POD during high mean monthly flows would be an EC of 270 µmhos/cm, and an SAR of 0.3. During low mean monthly flows, the surface water would have an EC of 677 µmhos/cm, and an SAR of 1.0. During 7Q10 flows, the surface water would have an EC of 1212 µmhos/cm, and an SAR of 2.1. These results are summarized in the Summary of impacts to surface waters table below. These values were calculated based upon a mass balance mixing model which determines the resultant values for EC, Na, Ca, and Mg, and then uses this information to determine the resultant EC and SAR.

The resultant mean monthly values are below the MDEQ irrigation season mean monthly standards (EC<1000, SAR<3), and the resultant 7Q10 values are below the MDEQ "not to exceed" standards (EC<1500; SAR<4.5). These standards were set to protect all identified beneficial uses of the Tongue River, including irrigation. Therefore, these discharges would not impact the beneficial uses of the Tongue River.

Summary of Impacts to Surface Waters

Based on Data from USGS Station 06306300 (Tongue River at State Line)

	Existing Conditions			Resulting Conditions with 1600 gpm of CBNG Water			MDEQ Mean Monthly Standard	MDEQ Not to Exceed Standard
	7Q10	LMM	HMM	7Q10	LMM	HMM		
Flow (cfs)	43	177	1638	47	181	1642	---	---
EC (µS/cm)	1148	651	266	1212	677	270	1000	1500
SAR	1.3	0.7	0.3	2.1	1.0	0.3	3.0	4.5

Based on the onsite review of the existing discharge points, and the information contained in the POD, the discharge points have been appropriately sited and use appropriate water erosion dissipation design. The anticipated total maximum volume of water discharged in this POD is 1600 gpm. Existing and proposed water management facilities were evaluated for compliance with best management practices during the onsite.

The operator proposes to discharge 1600 gpm of water into the Tongue River under the existing MPDES discharge permit. Approximately 235 gpm would be piped to the Spring Creek coal mine to be beneficially used. Approximately 370 gpm would be piped to the Decker coal mine to be beneficially used. The remaining produced water would be stored in 5 lined impoundments over the winter, and used for irrigation of 170 acres during the summer. These impoundments would disturb approximately 75 acres including the dam structures. All of these impoundments would be located off-channel. The impoundments would be constructed to meet the requirements of the Montana State Engineers Office (MSEO), MDEQ and the needs of the operator and the landowner. These impoundments are not anticipated to infiltrate any water since they would be lined. Phased reclamation plans for the impoundments would be submitted and approved on a site-specific, case-by-case basis as they are no longer necessary for disposal of CBNG water, as required by BLM applied COAs. Reservoirs would require detailed reclamation plans once they are no longer used for disposal of CBNG water. Application of this water for irrigation would require soil amendments to prevent impacts to soil structure and infiltration rates. All water management facilities were evaluated for compliance with best management practices during the onsite inspection. A monthly water balance model was prepared for this POD based on the information in the POD book. This analysis shows that the rates of use assumed, and the storage capacities planned, would be sufficient to manage the produced water.

The National Pollutant Discharge Elimination System Permit, issued by the MDEQ, would address any existing downstream concerns, such as irrigation use, in the COAs for the permit. There may be a designated point of compliance identified for the monitoring of the water quality and quantity if downstream water rights are determined to be an issue by the MDEQ or MSEO.

In order to determine the actual water quality of the producing formations in this POD, and to verify the water analysis submitted for the pre-approval evaluation, the operator has committed to designate a reference well to each coal zone within the POD boundary. The well would be sampled for analysis within 60 days of initial production. A copy of the water analysis would be submitted to the BLM Authorized Officer.

The operator has water well agreements to properly permitted domestic and stock water wells within the circle of influence of the proposed CBNG wells.

For more detailed information regarding the potential water impacts and mitigation, please refer to the WMP (available for review in the Miles City BLM Field Office) and the Statewide FEIS, Volume 1, Chapter 4, Pages 4-47 through 4-86, and the Surface Water Quality Analysis Technical Report (Greystone and ALL, 2003) prepared to support the development of the Statewide FEIS.

Wildlife: Impacts to wildlife resources related to CBNG development are discussed in detail in the Statewide FEIS (chap. 4, pages 4-160 to 4-196).

Most direct and indirect impacts to wildlife and wildlife habitat, as addressed in the Statewide FEIS, are also issues with this action. Direct impacts to wildlife resources include loss of habitat through construction activities and permanent CBNG intrastructure and mortalities resulting from collisions with vehicles and powerlines. Indirect impacts would include habitat fragmentation and displacement related to CBNG infrastructure and human-related disturbance and activities.

There would be about 4.4 miles of new, permanent all-weather roads and 22 miles of two-track trails with this action. This would result in the direct loss of about 45 acres of habitat. All species of wildlife inhabiting the project area would be impacted by vehicle collisions resulting from new roads and increased traffic. Examples of these types of impacts range from deer/vehicle collisions to reptiles/amphibians being run over while crossing a roadway. There would be about 5 miles of above-ground powerlines and about 20 miles of pipeline/buried power corridors with this action. This would result in an additional 35 acres of disturbed habitat; recognizing the required reclamation would not mimic natural habitat values, as overhead powerlines would remain in place. Exposed powerlines pose a

collision hazard to avian species, especially raptors and upland game birds. Although all above-ground power facilities would be constructed following strict raptor protection guidelines, it is recognized this mitigation is not a 100% guarantee against future avian mortalities. Within the POD boundary, using the ½ and 2 mile buffers to address impacts to wildlife sensitive to disturbance/displacement, there would be about 7,250 to 34,560 acres (all owners) impacted by the proposed action (Statewide FEIS, pages 4-172 to 173).

Big game would primarily be impacted by habitat fragmentation and disturbance with this action. Several wells would be located in mule deer winter habitat which may result in some displacement/disturbance to deer in these areas. Several wells and a major infrastructure (all-season road, above-ground powerlines, battery location) corridor is located on a ridgeline bisecting preferred big game habitat on either side of the ridge. This development may interfere with movements/use of this area by big game. Several thousand acres of big game habitat including important winter range that, in the past, was minimally impacted by humans, would now sustain year-long use resulting in increased stress and disturbance. It is recognized that wildlife, including big game, can and would acclimate to sustained and regular human contact providing that contact is not perceived as threatening to the individual animal. Big game may receive some benefit from the ponds being constructed to manage produced water although water is not considered limiting in the area. Agricultural fields being developed to help produced water disposal would attract big game (ie, fall use on alfalfa fields) although, as with water, forage is not considered limiting in the area. For the well location on north aspect of Badger Creek, this well location is at the toe of a south aspect hillside located along the Badger Creek drainage. This is very important and highly preferred winter habitat for mule deer. The well location is situated in an area that mule deer select for foraging and travel corridors. Important habitat will be fragmented and reduced in quality because of facility location and increased human presence.

Sharptailed and sage grouse would be impacted by this project by habitat disturbance/fragmentation and CBNG infrastructure development. Roads, vehicles, structures and human activity would displace some grouse nesting activity and reduce habitat availability for brood rearing. Mortality would increase as a result of collisions with vehicles and powerlines. Agricultural fields, especially irrigated alfalfa, developed to aid produced water disposal would provide forage, especially during late summer and fall periods for grouse.

There are no known active raptor nests within ½ mile of any federally authorized CBNG well in this project therefore, disturbance to nesting raptors would be minimal. There may be raptor mortalities associated with powerline electrocutions and collisions and collisions with vehicles as a result of this action.

There are no known bald eagle winter roosts or important foraging areas within 1 mile of any federal well associated with this project. This project is not expected to disrupt bald eagle winter habitat/activity. As described above, there is an active bald eagle nest about one mile from the nearest federal well. This action is not expected to impact this nesting pair of eagles. Potential impacts to bald eagles resulting from CBM development is addressed in the FEIS (pages 4 – 167 to 4 – 180). Mitigation measures to protect bald eagles are outlined in the Biological Opinion provided by USFWS (Statewide FEIS, Wildlife Appendix).

As mentioned earlier, there are at least 104 species of birds known to use this area of Southeastern Montana. With the resultant CBNG-related infrastructure (ie, roads, powerlines, facilities, etc), habitat fragmentation and increased human disturbance, it is reasonable to assume there will be impacts to nesting and migrating neotropical bird species. The primary impacts to these species would be related to disturbance of preferred nesting habitats and increased vehicle collisions. However, these impacts will not appreciably reduce habitat values for any of these species including those that are identified as “SSS”. Compressor facilities are not being authorized under this action therefore noise is not an issue concerning wildlife habitat is this analysis. However, there will a large compressor facility authorized for this project by the MDEQ. Decibel limits on CBM facilities were established in the Statewide FEIS that apply to

both agencies that effectively reduce impacts of noise to susceptible species.

Prairie dogs and mountain plovers would not be affected by this action as there are no CBNG related facilities/actions being authorized that impact prairie dog colonies and/or mountain plover habitat.

CBNG produced water will be added directly to the Tongue River as authorized under a Montana DEQ permit. The amount of this discharge will have negligible impact on aquatic resources due to high dilution ratios. Additionally, CBM water will be pumped to three storage reservoirs, stored through the winter period and applied with irrigation systems to nearby crop lands during the growing season. The quality and chemistry of this water is such that benefits to aquatic species would be minimal. Conversely, these structures would provide drinking water and habitat that may benefit some species (ie, big game, waterfowl, shorebirds, etc). Crops produced from this water disposal process will benefit some species, primarily deer and antelope, that are attracted to this new food source.

[1]SUMMARY OF DISTURBANCE

Facility	Number or Miles	Factor	Acreage of Disturbance	Duration of Disturbance
Wells	85	0.1/acre or Site Specific	8.5	Short Term
Gather/Metering Facilities	5	1ac/Facility	5	Long Term
Off-channel Basins Water Discharge Points*	5 2	Site Specific 0.01 ac/WDP	72 0.02	Long Term
Improved Roads	4.4	24' Corridor	12.8	Long Term
2-Track Roads	22	12' Corridor	32	Long Term
Pipelines and Electrical lines	20.5	14' Corridor	35	Short Term

[1] Summary of disturbance as relates to the Proposed Action

*Already included in other categories of disturbance, but separated here for USCOE General Permit 98-08 reporting.

The designation of the duration of disturbance is defined in the Statewide FEIS: "For this EIS, short-term effects are defined as occurring during the construction and drilling/completion phases. Long-term effects are caused by construction and operations that would remain longer."

Cumulative Impacts: Although no compressors are proposed on federal surface, there is a compressor analyzed and approved as part of the State's EA for the expanded field. The Montana Board of Oil and Gas Conservation's August 6, 2003 EA and Decision Record for the expanded field discusses those actions which would reduce emission levels at the site.

The Statewide FEIS identified the following potential exceedences as part of the cumulative effect to air: 24-hour PM10 and PM 2.5 NAAQS south of Spring Creek Mine; PSD Class II increments for 24-hour PM10 south of Spring Creek Mine; PSD Class I increments for 24-hour PM10 on the Northern Cheyenne Reservation and Washakie WSA; PSD Class I increments for annual NO2 on the Northern Cheyenne Reservation; atmospheric deposition thresholds in the very sensitive Upper Frozen Lake in the PSD Class I Bridger Wilderness Area and Florence Lake in the Class II Cloud Peak Wilderness Area; and visibility impacts in all federal PSD Class I and II sensitive areas including the Northern Cheyenne, Fort Peck, Fort Belknap and Crow Indian Reservations. The proposed action would minimally contribute to the cumulative impacts described in the Statewide FEIS.

Impacts could at first be negligible and nearly unnoticeable. As development expands in the area (beyond

what's being proposed here) cumulative impacts to the airsheds mentioned above could be noticeable and so mitigation of air impacts identified in this EA are prescribed (see the Conditions of Approval).

During the next 20 years, disturbances from CBNG development, conventional oil and gas development, coal mining, and other projects considered under the cumulative effects analysis would result in the short-term disturbance of about 132,000 acres of soil. These disturbances would be reduced to about 92,200 acres during the production phase of CBNG, conventional oil and gas activities and coal mining. Cumulative effects will result in lowered soil productivity and soil health on these disturbed areas. In much of this acreage, soils will be taken out of production or require long periods before they can become productive again.

The Statewide FEIS identifies 5,135 cultural sites that may be encountered, resulting in 515 to 735 sites that could be eligible for the NRHP. This project, based on inventory results, would have no cumulative effect on sites that are listed or that may be eligible for listing on the NRHP.

The Hydrology sections of the Statewide FEIS identified the following potential cumulative impacts:

- Surface water quality will be slightly altered, however downstream uses will not be diminished.
- Surface water flows will be moderately increased.
- Groundwater drawdown will extend 4 to 5 miles from the edge of production.
- Shallow groundwater quality may be slightly altered.

In table 4-46 of the Statewide FEIS (page 4-85) impacts to surface waters are depicted numerically for the USGS station on the Tongue River at the State Line during minimum mean monthly flows. This table shows that at the stream flows would increase by 5 cfs. This proposal would account for a flow increase of 3.57 cfs, or 71% of that projected in the Statewide FEIS. Table 4-46 also depicts an increase in EC of 42 □S/cm. This proposal would account for an EC increase of 26.2 □S/cm, or 62% of that projected in the Statewide FEIS. Table 4-46 also depicts an increase in SAR of 1.07 units. This proposal would account for an SAR increase of 0.27 units, or 25% of that projected in the Statewide FEIS.

Groundwater drawdown resulting from this proposal is anticipated to be similar to that depicted in the Statewide FEIS, with drawdown eventually extending 4-5 miles from the edge of production.

Shallow groundwater may be slightly altered by this proposal since irrigation with CBNG produced water is being proposed adjacent to Badger Creek. As the unsaturated zone contains significant sulfate salts ($CaSO_4$ and $MgSO_4$), it is anticipated that the water that enters the shallow groundwater will be chemically similar to, but not identical to, the water currently in the shallow aquifer.

Cumulative effects also include the potential for increased fire hazards from CBNG exploration and development. The total area of cumulative impacts, including surface disturbances from additional activities such as roads, pipeline and utility lines, are estimated to be 95,770 acres. This total area is less than 1 percent of the entire emphasis area. The total disturbance for the ROW required for this project will total less than 1 acre. A fire stipulation has also been included for mitigation in the ROW and the COAs.

The impacts to wildlife resources from cumulative impacts would be the same or similar as described above (see environmental effects section) except on a much larger scale. There will be direct habitat loss from construction activities, roads and other facilities. Mortalities will occur from vehicle and powerline collisions. Indirect impacts will occur from habitat disturbance, human presence and possible diminished water quality. Impacts from pending and “near-future” foreseeable CBNG development will be expected to impact about four times the area as being impacted with this project. With that scenario, between 28,000 to 136,000 acres will indirectly be impacted by currently planned projects. Additionally, between 100,000 to 200,000 acres of wildlife habitat are impacted by existing CBNG and coal mine developments

within the project vicinity in Wyoming and Montana.

Local populations of certain wildlife species groups may be impacted by the cumulative effects of current and foreseeable developments in this area. These would include species such as mule deer, sage grouse, eagles, spiny softshell turtles, etc. These species are somewhat localized to the area and rely on very key habitat areas during critical times of the year. This may include winter range for big game, nesting and brood rearing habitat for grouse and raptors and the Tongue River corridor for aquatic species.

Although difficult to quantify in numerical terms, it is reasonable to assume that with the magnitude of cumulative industrial development in this somewhat localized landscape, there will be impacts to most wildlife species residing in the area that cannot be avoided.

Impacts from the BLM Preferred Alternative

The impacts, including cumulative, would be the same as those described above in "Impacts from the Proposed Action" with the following exceptions: the Well location on north aspect of Badger Creek has been relocated to be in the valley floor of the Badger Creek drainage, away from the sideslopes of the drainage. With this location, interruption to preferred mule deer winter range will be reduced from the original alternative. Although this location is very near the original location, it is away from the actual south slope habitat, therefore reducing habitat fragmentation and lessening human disturbance.

The well location farthest to the east (on Ranch home), will be relocated to a hillside, out of the drainage corridor. Habitat fragmentation and human presence within the travel corridor will be reduced, therefore allowing big game the opportunity to use the area with less disturbance than under the original proposal.

Impacts from the No Action Alternative

The no action alternative would not authorize any construction or drilling activities; consequently, there would be no orderly gas field development in the area. Royalties from production on federal leases, which is normally 12½%, would be lost, thereby reducing revenue to both the Federal and State government. CBNG would continue to be drained by State and private wells. There no action alternative would not contribute to the cumulative effects described under the proposed action.

DESCRIPTION OF PROPOSED MITIGATION MEASURES: Approval of the BLM Preferred Alternative, including implementation of committed mitigation measures contained in the Master Surface Use Plan, Drilling Program and Water Management Plan, in addition to the following COAs and the mitigation contained in the Statewide FEIS, would ensure that environmental impacts would be lessened or eliminated.

Many of the requirements in the Statewide FEIS and CBNG Preparation Guidebook were designed to reduce impacts to wildlife and other natural resources. Examples of the requirements outlined in the above mentioned documents include measures such as burying power lines wherever possible, following strict raptor-proof guidelines for above-ground powerlines, minimizing road and well pad construction, and the use of disturbance corridors for combining utility lines and access roads. Recommendations for designing reservoirs and wetlands to enhance wildlife habitat are also included in the CBNG Preparation Guidebook. In addition to the following COAs, it is recommended that all CBNG wells use remote monitoring. The use of remote monitoring would minimize the need to visit well locations, resulting in fewer disturbances to wildlife and their habitat.

Two federal well site locations have been moved from original locations to lessen impacts to mule deer winter range and travel corridors. In accordance with the stipulations on the lease, timing stipulations are being applied in the SW¼ of Sec. 25 and the S½NE¼ of Sec. 26, T. 9 S., R. 40 E., prohibiting any drilling or completion activity from December 1 through March 31 for protection of crucial winter range for wildlife.

CONSULTATION AND COORDINATION

The Northern Plains Resource Council and Native Action, a proponent of the Northern Cheyenne Tribe, requested and received copies of all of the APDs for the proposed action during the 30-day APD posting period. No comments were submitted to BLM for consideration in preparation of the EA.

During consultation on the Statewide FEIS, the Northern Cheyenne Tribe indicated they were concerned with Northern Cheyenne homesteads, springs and a 14 mile area zone around the reservation boundary. Per the Miles City Field Office CBNG APD and POD Project Guidance, Foothills Archaeology consulted the 2002 "Northern Cheyenne Tribe and Its Reservation" report on the Miles City BLM Website. The BLM 2002 "Ethnographic Overview for Southeast Montana" was also consulted. No homesteads or springs identified in the documents were present in the inventoried areas. Also, the locations and associated facilities are all proposed approximately 20 - 30 miles from the reservation border.

Tom Mackey	Fidelity
John Campbell	Fidelity
Joe Icenogle	Fidelity
Mike Bergstrum	Fidelity
Greg Petruska	Fidelity
Alfred & Deanna Visborg	Landowner
Decker Coal	Landowner
Consol Coal	Landowner
Seven Brothers Ranch	Landowner

FINDING OF NO SIGNIFICANT IMPACT AND DECISION RECORD
FOR
Fidelity Exploration & Production Co.
Tongue River Badger Hills Project
PLAN OF DEVELOPMENT
MT-020-2003-327

SUMMARY OF THE PROPOSAL

Fidelity Exploration and Production Company proposes to drill 85 wells in 18 locations on private surface/federal minerals. BLM has modified the proposal in the "BLM Preferred Alternative" to account for 2 proposed well sites that needed to be moved to help protect wildlife concerns, and the modification exception of the "No Surface Occupancy" stipulation in T. 9 S., R. 40 E., section 21: SWSE as it has been determined that this 40-acre tract was not within an approved mine plan area.

FINDING OF NO SIGNIFICANT IMPACT/DECISION

I have decided to approve the "BLM Preferred Alternative." Approved project components include:

- Construction, drilling, completion, production, routine operation and reclamation of up to 85 coal bed natural gas wells on 18 locations and one right-of-way
- Establish production from an existing CBNG well
- Placement of surface facilities such as tank batteries, meter houses and other equipment needed to produce coal bed natural gas for the life of the project
- Access via 27 miles of improved and unimproved roads (of which 4.4 miles would be upgraded) would be authorized to allow the operators access to their individual leases as described in the Proposed Action

Approval of these facilities is conditioned upon and subject to the following administrative requirements:

- Fidelity Exploration and Production Company will implement the resource protection, mitigation and monitoring measures found in this EA. Monitoring inspections conducted by BLM and Fidelity will be based upon these requirements and will be applied to all surface disturbing activities (i.e., placement of surface pipelines). BLM will conduct monitoring inspections of construction and rehabilitation operations through a BLM compliance officer or team effort to ensure that these measures are effectively implemented. Mitigation and monitoring measures could be modified by the authorized officer as necessary to further minimize impacts.

My Finding of No Significant Impact (FONSI) determination for the Fidelity coal bed natural gas project EA is based upon careful consideration of a number of factors including:

1. Consistency with Resource Management Plans – This decision is in conformance with the overall planning direction for the area: the Powder River RMP as amended by the Statewide FEIS. “Standard” and “special” protective stipulations would be applied to help prevent undue adverse impacts to other resource values. Standard and special protective measures were identified and incorporated into the BLM Preferred Alternative to help reduce or eliminate impacts.

2. Public Involvement on the Proposal – Opportunity for public involvement on Fidelity's proposal was provided via the APD posting period (43CFR 3162.3-1(g)). Copies of the APDs were provided to Northern Plains Resource Council and Native Action. No comments were received from the public or the Tribes during the 30-day posting period.

3. Measures to Avoid or Minimize Environmental Harm – The adoption of the mitigation measures and conditions of approval identified in the EA which I included in the Decision Record represent all practicable means to avoid or minimize environmental harm.

4. Monitoring and Enforcement Program – BLM and Fidelity will provide qualified representatives on the ground during and following construction, reclamation and other approved compliance checks commensurate with the provisions of this Decision Record. Appropriate remedial action will be taken by Fidelity in the event unacceptable impacts are identified during the life of the project.

I have reviewed environmental assessment MT-020-2003-327, including the explanation and resolution of any potentially significant environmental impacts. The BLM Preferred Alternative is to drill 85 developmental CBNG wells, test for, and produce any hydrocarbon reserves in the CX Field, establish production from an existing CBNG well, and issue the required right-of-way. In addition to the following Conditions of Approval, it is recommended that all CBNG wells use remote monitoring. The use of remote monitoring would minimize the need to visit well locations, resulting in fewer disturbances to wildlife and their habitat.

I have determined that the BLM Preferred Alternative with the mitigation measures and conditions of approval described below would not have any significant impacts on the human environment and that an EIS is not required. I have determined that the proposed project is in conformance with the approved land use plan. It is my decision to implement the BLM Preferred Alternative with the mitigation measures described herein.

COMPLIANCE AND MONITORING

Because of the importance of mitigation and for avoiding or minimizing impacts, a monitoring program shall be implemented by Fidelity and BLM. Monitoring will be conducted in accordance with the Statewide FEIS and this decision. Appropriate remedial action will be taken by Fidelity in the event unacceptable impacts are identified.

APPEAL

You have the right to request a State Director Review (SDR) of this decision and the Conditions of Approval pursuant to 43 CFR 3165.3(b). An SDR request, including all supporting documentation must be filed with the Montana State Office, State Director (MT-920) at P. O. Box 36800, Billings, Montana 59107 within 20 business days of your receipt of this decision. If adversely affected by the State Director's decision, it can be further appealed to the Interior Board of Land Appeals (IBLA) pursuant to 43 CFR 3165.4, 43 CFR 4.411, and 43 CFR 4.413. Should you fail to timely request an SDR, or after receiving the State Director's decision, fail to timely file an appeal with the IBLA, no further administrative review of this decision will be possible.

David McElhaney
Field Manager
Miles City Field Office

9/16/03
Date

MITIGATION MEASURES/REMARKS:

CONDITIONS OF APPROVAL

Surface use is prohibited from December 1 to March 31 for protection of crucial winter range for wildlife on wells in the SW¼ of Section 25, T9S, R40E and the S½NE¼ of Section 26, T9S, R40E.

A. **Site Specific**

a. Access Road:
1. Construction activities can only occur as itemized in the approved Application for Permit to Drill (APD).
2. For abandonment, surfacing material and culverts must be removed. The roads and ditches must be recontoured and seeded in accordance with Condition of Approval F.

b. Production Facilities:
1. All construction activities for off wellpad facilities will be addressed in a sundry submitted by Fidelity Exploration, as stated in your approved APD.
2. The "right-of-way" must be cleaned up of all debris, material and equipment after completion of construction activity.

c. Waste Disposal:
1. Any materials classified as nonexempt hazardous wastes must be disposed of in an EPA approved facility.
2. Trash or other debris must not be disposed of on the pad.
3. Burning of materials or oil is not allowed.

d. Well Site Layout:
1. No well pads will be constructed. Reserve pits will be constructed below well stake to reduce surface disturbance.
2 . Stockpiled topsoil and pit material must be stored to prevent material from entering drainages.
3. Equipment cannot be stored on the topsoil stockpile.

e. Drilling Operation
. 1. Due to the low pressures encountered in the drilling of these wells, BOP equipment will not be required. A diverter will be required to control uphole pressures.
2. All wait on cement times must be sufficient for the cement to reach 500 psi compressive strength at the shoe as required by Onshore Oil & Gas Order No. 2. III. B.
3. A minimum of three centralizers on the production casing, spaced to afford maximum protection of the shallow coals and aquifers.

f. Surface Reclamation:
1. Reclamation must be in accordance with the plan included in the approved APD, and with the requirements of the surface owner, where applicable.

2. Pit reclamation:
   a. All pit(s) must be emptied of all fluids within 90 days after completion of drilling operations. The pit must be closed properly to assure protection of soil, water and vegetation.
   b. The pit may not be cut or trenched.
   c. Pit mud/sludge material may be buried onsite after the material has dried.

d. The pit material must be covered with a minimum of 3' of soil.

3. The reclamation effort will be evaluated as a success if the previously disturbed area is stabilized, all potential water erosion is effectively controlled and the vegetative stand is established with at least a 70% cover.

B. **General**

1. If any cultural values [sites, artifacts, human remains are observed during operation of this lease/permit/right-of-way, they will be left intact and the Miles City Field Manager notified. The authorized officer will conduct an evaluation of the cultural values to establish appropriate mitigation, salvage or treatment. The operator is responsible for informing all persons in the area who are associated with this project that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator is to immediately stop work that might further disturb such materials, and contact the authorized BLM officer (AO). Within five working days the AO will inform the operator as to:

   - Whether the materials appear eligible for the National Register of Historic Places;
   - The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary); and,
   - A time-frame for the AO to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction measures.

2. If paleontological resources, either large or conspicuous, and/or a significant scientific value are discovered during construction, the find will be reported to the Authorized Officer immediately. Construction will be suspended within 250 feet of said find. An evaluation of the paleontological discovery will be made by a BLM approved professional paleontologist within five (5) working days, weather permitting, to determine the appropriate action(s) to prevent the potential loss of any significant paleontological values. Operations within 250 feet of such a discovery will not be resumed until written authorization to proceed is issued by the Authorized Officer. The applicant will bear the cost of any required paleontological appraisals, surface collection of fossils, or salvage of any large conspicuous fossils of significant scientific interest discovered during the operation.

3. The operator shall restrict travel on unimproved two-track roads during periods of inclement weather or spring thaw when the possibility exists for excessive surface resource damage (e.g., rutting in excess of 4-inches, travel outside two-track roadway, etc.). This applies to pre-approval APD/POD planning (surveying, staking), drilling, and production operations.

4. The first well drilled to each targeted coal zone will be designated as the POD reference well. Designated reference wells must have the ability to be sampled at the wellhead. Water quality samples will be collected by the operator and submitted for analysis using MDEQ NPDES criteria within 30-60 days of initial water production. Results of the analysis will be submitted to the MCFO-BLM Authorized Officer as soon as they become available.

C. **Construction**

1. A pre-construction field meeting shall be conducted prior to beginning any dirt work approved under this POD. The operator shall contact the BLM Authorized Officer, Randy Nordsven @ 406-233-3647 at least 4-days prior to beginning operations so that the meeting can be scheduled. The operator is responsible for having all contractors present (dirt contractors, drilling contractor, pipeline contractor, project oversight personnel, etc.) including the overall field operations superintendent, and for providing all contractors copies of the approved POD, project map and BLM Conditions of Approval pertinent to the work that each will be doing.

2. The operator will limit vegetation removal and the degree of surface disturbance wherever possible. Where surface disturbance cannot be avoided, all practicable measures will be used to minimize erosion and stabilize disturbed soils.
3. Construction and drilling activity will not be conducted using frozen or saturated soil material during periods when watershed damage or excessive rutting is likely to occur.
4. Topsoil will be salvaged for use in reclamation on all areas of surface disturbance (roads, locations, pipelines, etc.). Clearly segregate topsoil from excess spoil material.
5. The operator will not push soil material and overburden over side slopes or into drainages. All soil material disturbed will be placed in an area where it can be retrieved without creating additional undue surface disturbance and where it does not impede watershed and drainage flows.
6. Construct the backslope no steeper than ½:1, and construct the foreslope no steeper than 2:1, unless otherwise directed by the BLM Authorized Officer.
7. Maintain a minimum 20-foot undisturbed vegetative border between toe-of-fill of pad and/or pit areas and the edge of adjacent drainages, unless otherwise directed by the BLM Authorized Officer.
8. With the overall objective of minimizing surface disturbance and retaining land stability and productivity, the operator shall use equipment that is appropriate to the scope and scale of work being done for roads and well pads (use equipment no larger than needed for the job).
9. To minimize electrocution potential to birds of prey, all overhead electrical power lines will be constructed to standards identified by the Avian Power Line Interaction Committee (1996).
10. The operator shall use wheel trenchers or ditch witches to construct all pipeline trenches, except where extreme topography or other environmental factors preclude their use.
11. Reserve pits will be adequately fenced during and after drilling operations until pit is reclaimed so as to effectively keep out wildlife and livestock. Adequate fencing, in lieu of more stringent requirements by the surface owner, is defined as follows:
    - Construction materials will consist of steel or wood posts. Three or four strand wire (smooth or barbed) fence or hog panel (16-foot length by 50-inch height) or plastic snow fence must be used with connectors such as fence staples, quick-connect clips, hog rings, hose clamps, twisted wire, etc.
    - Construction standards: Posts shall be firmly set in ground. If wire is used it must be taut and evenly spaced, from ground level to top wire, to effectively keep out animals. Hog panels must be tied securely into posts and one another using fence staples, clamps, etc. Plastic snow fencing must be taut and sturdy. Fence must be at least 2-feet from edge of pit. 3 sides fenced before beginning drilling, the fourth side fenced immediately upon completion of drilling and prior to rig release. Fence must be left up and maintained in adequate condition until pit is closed.
12. The reserve pit will be oriented to prevent collection of surface runoff. After the drilling rig is removed, the operator may need to construct a trench on the uphill side of the reserve pit to divert surface drainage around it. If constructed, the trench will be left intact until the pit is closed.
13. The reserve pit will be lined with an impermeable liner if permeable subsurface material is encountered. An impermeable liner is any liner having a permeability less than 10-7 cm/sec. The liner will be installed so that it will not leak and will be chemically compatible with all substances that may be put in the pit. Liners made of any man-made synthetic material will be of sufficient strength and thickness to withstand normal installation and pit use. In gravelly or rocky soils, a suitable bedding material such as sand will be used prior to installing the liner.
14. The reserve pit will be constructed so that at least half of its total volume is in solid cut material (below natural ground level).
15. Culverts will be placed on channel bottoms on firm, uniform beds, which have been shaped to accept them, and aligned parallel to the channel to minimize erosion. Backfill will be thoroughly compacted.
16. All culverts will be appropriately sized in accordance with standards in BLM Manual 9113.
17. Construction and other project-related traffic will be restricted to approved routes. Cross-country vehicle travel will not be allowed.

18. Maximum design speed on all operator constructed and maintained roads will not exceed 25 miles per hour.
19. Pipeline construction shall not block nor change the natural course of any drainage. Pipelines shall cross perpendicular to drainages. Pipelines shall not be run parallel in drainage bottoms. Suspended pipelines shall provide adequate clearance for maximum runoff.
20. Pipeline trenches shall be compacted during backfilling. Pipeline trenches shall be routinely inspected and maintained to ensure proper settling, stabilization and reclamation.
21. During construction, emissions of particulate matter from well pad and road construction would be minimized by application of water or other non-saline dust suppressants with at least 50 percent control efficiency. Dust inhibitors (surfacing materials, non-saline dust suppressants, and water) will be used as necessary on unpaved roads that present a fugitive dust problem. The use of chemical dust suppressants on public surface will require prior approval from the BLM Authorized Officer.
22. Operators are required to obtain a National Pollution Discharge Elimination System (NPDES) Storm Water Permit from the MDEQ. This general construction storm water permit must be obtained from MDEQ prior to any surface disturbing activities.
23. The operator shall submit a Sundry Notice (Form 3160-5) to BLM for approval prior to construction of any new surface disturbing activities that are not specifically addressed in the approved APD or POD Surface Use Plan.

D. **Operations/Maintenance**

1. The operator shall complete CBNG wells (case, cement and under ream) as soon as possible, but no later than 30 days after drilling operations, unless an extension is given by the BLM Authorized Officer.
2. If in the process of air drilling the wells there is a need to use mud, all circulating fluids will be contained either in an approved pit or in an aboveground containment tank. The pit or containment tank will be large enough to safely contain the capacity of all expected fluids without danger of overflow. Fluid and cuttings will not be squeezed out of the pit, and the pit will be reclaimed in an expedient manner.
3. Confine all equipment and vehicles to the access road(s), pad(s), and area(s) specified in the approved APD or POD.
4. All waste, other than human waste and drilling fluids, will be contained in a portable trash cage. This waste will be transported to a State approved waste disposal site immediately upon completion of drilling operations. No trash or empty barrels will be placed in the reserve pit or buried on location. All state and local laws and regulations pertaining to disposal of human and solid waste will be complied with.
5. Rat and mouse holes shall be filled and compacted from the bottom to the top immediately upon release of the drilling rig from the location.
6. The operator will be responsible for prevention and control of noxious weeds and weeds of concern on all areas of surface disturbance associated with this project (well locations, roads, water management facilities, etc.) Use of pesticides shall comply with the applicable Federal and State laws. Pesticides shall be used only in accordance with their registered uses and within limitations imposed by the Secretary of Interior. Prior to the use of pesticides on public land, the holder shall obtain from the BLM authorized officer written approval of a plan showing the type and quantity of material to be used, pest(s) to be controlled, method of application, location of storage and disposal of containers, and any other information deemed necessary by the authorized officer to such use. Disturbed areas will be monitored annually for the presence of noxious weeds from June through August. Monitoring will begin prior to disturbance.
7. All permanent above-ground structures (e.g., production equipment, tanks, etc.) not subject to safety requirements will be painted to blend with the natural color of the landscape. The paint used will be a color which simulates “Standard Environmental Colors.”
8. Sewage shall be placed in a self-contained, chemically treated porta-potty on location.
9. The operator and their contractors shall ensure that all use, production, storage, transport and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of

these wells will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. All project-related activities involving hazardous materials will be conducted in a manner to minimize potential environmental impacts. In accordance with OSHA requirements, a file will be maintained onsite containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds and/or substances which are used in the course of construction, drilling, completion and production operations.

10. Produced water may be put in the reserve pit during completion work per Onshore Order #7. Produced fluids shall be put in tanks on location during the testing phase.
11. The only fluids/waste materials which are authorized to go into the reserve pit are RCRA exempt exploration and production wastes. These include:
    - drilling muds & cuttings
    - rigwash
    - excess cement and certain completion & stimulation fluids defined by EPA as exempt

    It does not include drilling rig waste, such as:
    - spent hydraulic fluids
    - used engine oil
    - used oil filter
    - empty cement, drilling mud, or other product sacks
    - empty paint, pipe dope, chemical or other product containers
    - excess chemicals or chemical rinsate

    Any evidence of non-exempt wastes being put into the reserve pit may result in the BLM Authorized Officer requiring specific testing and closure requirements.

12. Reserve pits will be closed as soon as possible, but no later than 90 days from time of drilling/well completion, unless the BLM Authorized Officer gives an extension. Squeezing of pit fluids and cuttings is prohibited. Pits must be dry of fluids or they must be removed via vac truck or other environmentally acceptable method prior to backfilling, recontouring and replacement of topsoil. Mud and cuttings left in pit must be buried at least 3-feet below recontoured grade. The operator will be responsible for recontouring any subsidence areas that develop from closing a pit.
13. Operators are advised that prior to installation of any oil and gas well production equipment which has the potential to emit air contaminants, the owner or operator of the equipment must notify the Montana Department of Environmental Quality to determine permit requirements. Examples of pertinent well production equipment include fuel-fired equipment (e.g., diesel generators), separators, storage tanks, engines and dehydrators.
14. If these wells are drilled during the fire season (June-October), the operator shall institute all necessary precautions to ensure that fire hazard is minimized, including but not limited to mowing vegetation on the access route(s) and well location(s), keeping fire fighting equipment readily available when drilling, etc.

E. **Dry Hole/Reclamation**

1. All disturbed lands associated with this project, including the pipelines, access roads, water management facilities; etc. will be expediently reclaimed and reseeded in accordance with the surface use plan and any pertinent site-specific COAs.

2. Disturbed lands will be recontoured back to conform with existing undisturbed topography. No depressions will be left that trap water or form ponds.
3. The fluids and mud must be dry in the reserve pit before recontouring pit area. The operator will be responsible for recontouring of any subsidence areas that develop from closing a pit. The plastic pit liner (if any) will be cut off below grade and properly disposed of at a state authorized landfill before beginning to recontour the site.

4. Before the location has been reshaped and prior to redistributing the topsoil, the operator will rip or scarify the drilling platform and access road on the contour, to a depth of at least 12 inches. The rippers are to be no farther than 24 inches apart.

5. Distribute the topsoil evenly over the entire location and other disturbed areas. Prepare the seedbed by disking to a depth of 4-to-6 inches following the contour.

6. Waterbars are to be constructed at least one (1) foot deep, on the contour with approximately two (2) feet of drop per 100 feet of waterbar to ensure drainage, and extended into established vegetation. All waterbars are to be constructed with the berm on the downhill side to prevent the soft material from silting in the trench. The initial waterbar should be constructed at the top of the backslope. Subsequent waterbars should follow the following general spacing guidelines:

Slope (percent)	Spacing Interval (feet)
< 2	200
2 – 4	100
4 – 5	75
> 5	50

7. The operator will drill seed on the contour to a depth of 0.5 inch, followed by cultipaction to compact the seedbed, preventing soil and seed losses. To maintain quality and purity, the current years tested, certified seed with a minimum germination rate of 80% and a minimum purity of 90% will be used. Seed mix will be supplied by private surface owners.

   - Slopes too steep for machinery may be hand broadcast and raked with twice the specified amount of seed. Complete fall seeding after September 15 and prior to prolonged ground frost. To be effective, complete spring seeding after the frost has left the ground and prior to May 15.

8. Phased reclamation plans will be submitted to BLM for approval prior to individual POD facility abandonment via a Notice of Intent (NOI) Sundry Notice. Individual facilities, such as well locations, pipelines, discharge points, impoundments, etc. need to be addressed in these plans as they are no longer needed. Individual items that will need to be addressed in reclamation plans include:
   - Pit closure (Close ASAP after suitably dry, but no later than 90 days from time of drilling unless an extension is given by BLM Authorized Officer.) BLM may require closure prior to 90 days in some cases due to land use or environmental concerns.
   - Configuration of reshaped topography, drainage systems, and other surface manipulations
   - Waste disposal
   - Revegetation methods, including specific seed mix (pounds pure live seed/acre) and soil treatments (seedbed preparation, fertilization, mulching, etc.). On private surface, the landowner should be consulted for the specific seed mix. If private surface owner defers to the BLM seed mix, or on any Federal surface, see seed mix stated in Right-of-Way Stipulations (H)(f).
   - Other practices that will be used to reclaim and stabilize all disturbed areas, such as water bars, erosion fabric, hydro-mulching, etc.
   - An estimate of the timetables for beginning and completing various reclamation operations relative to weather and local land uses.
   - Methods and measures that will be used to control noxious weeds, addressing both ingress and egress to the individual well or POD.
   - Decommissioning/removal of all surface facilities
   - Closure and reclamation of areas utilized or impacted by produced CBNG water, including discharge points, reservoirs, off-channel pits, land application areas, livestock/wildlife watering facilities, surface discharge stream channels, etc.

9. BLM will not release the bond until all disturbed areas associated with the APD/POD have been successfully revegetated (evaluation will be made after the second complete growing season) and has met all other reclamation goals of the surface owner and surface management agency.
10. A Notice of Intent to Abandon and a Subsequent Report of Abandonment must be submitted for abandonment approval.
11. The abandonment marker shall exhibit the same information required for the well sign (Refer to Informational Notice Item 6). The abandonment marker identified below must be installed when the wells are plugged.

____ A steel pipe (minimum 4" diameter, capped, minimum 4' above ground) set in cement.

____ A steel plate welded to surface casing at the recontoured ground level.

_X_ A steel plate welded to surface casing 4' below ground level.

12. For bond release approval, a Final Abandonment Notice (with a surface owner release letter on split-estate) must be submitted prior to a final abandonment evaluation by BLM.
13. Soil fertility testing and the addition of soil amendments may be required to stabilize some disturbed lands.
14. Any mulch used for reclamation needs to be certified weed free.

F. **Producing Well**

1. Landscape those areas not required for production to the surrounding topography as soon as possible. The fluids and mud must be dry in the reserve pit before recontouring pit area. The operator will be responsible for recontouring and reseeding of any subsidence areas that develop from closing a pit.
2. Reduce the backslope to 2:1 and the foreslope to 3:1, unless otherwise directed by the BLM Authorized Officer. Reduce slopes by pulling fill material up from foreslope into the toe of cut slopes.
3. Production facilities (including dikes) must be placed on the cut portion of the location and a minimum of 15 feet from the toe of the back cut unless otherwise approved by the BLM Authorized Officer.
4. Any spilled or leaked oil, produced water or treatment chemicals must be reported in accordance with NTL-3A and immediately cleaned up in accordance with BLM requirements. This includes clean-up and proper disposition of soils contaminated as a result of such spills/leaks.
5. Distribute stockpiled topsoil evenly over those areas not required for production and reseed as recommended.
6. Upgrade and maintain access roads and drainage control (e.g., culverts, drainage dips, ditching, crowning, surfacing, etc.) as necessary and as directed by the BLM Authorized Officer to prevent soil erosion and accommodate safe, environmentally-sound access. Operator will establish and enforce speed limits to limit fugitive dust. Operator will also be required to administer dust control measures during production of this field.
7. Prior to construction of production facilities not specifically addressed in the APD/POD, the operator shall submit a Sundry Notice to the BLM Authorized Officer for approval.
8. Waterbars shall be installed on all reclaimed pipeline corridors per the guidelines in E #6.

G**.** **Verbal Notifications**

1. Made to the BLM, MCFO 406-232-7001, or after business hours to the appropriate individual's home phone shown on the list attached.

a. Notify this office verbally at least 48 hours prior to beginning construction.

b. Notify this office verbally at least 12 hours prior to spudding the well. (To be followed up in writing within 5 days.)

c. Notify this office verbally at least 12 hours prior to running any casing. (To be followed up in writing within 5 days.)

d. Notify this office verbally at least 24 hours prior to plugging the well to receive verbal plugging orders. (Refer to Informational Notice Item No. 3 for additional abandonment instructions.)

e. Notify this office verbally at least 24 hours prior to removal of fluids from the reserve pit.

2. A complete copy of the approved Application for Permit to Drill (APD), including conditions, stipulations, and the H2S contingency plan (if required) shall be available for reference at the well site during the construction and drilling phases.

3. This drilling permit is valid for either one year from the approval date or until lease expiration, whichever occurs first.

4. The abandonment marker shall exhibit the same information required for the well sign (Refer to Informational Notice Item 6). The abandonment marker identified below must be installed when the well is plugged.

5. If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change), the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

6. Additional requirements may be imposed if changes in operational and/or environmental conditions dictate.

7. You have the right to request a State Director Review of this decision and these Conditions of Approval pursuant to 43 CFR 3165.3(b). An SDR request, including all supporting documentation must be filed with the Montana State Office, State Director (MT-920) at P. O. Box 36800, Billings, Montana 59107 within 20 business days of your receipt of this decision. If adversely affected by the State Director's decision, it can be further appealed to the Interior Board of Land Appeals (IBLA) pursuant to 43 CFR 3165.4, 43 CFR 4.411, and 43 CFR 4.413. Should you fail to timely request an SDR, or after receiving the State Director's decision, fail to timely file an appeal with the IBLA, no further administrative review of this decision will be possible.

H. Right-of-Way Stipulations:

a. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the authorized officer. Holder shall suspend all operations in the immediate areas of such discovery until written authorization to proceed is issued by the authorized officer. An evaluation of the discovery will be made by the authorized officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the authorized officer after consulting with the holder.

b. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

c. The holder shall conduct all activities associated with the construction, operation, and termination of the right-of-way within the authorized limits of the right-of-way.

d. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 2-3 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

e. The holder shall be responsible for weed control on disturbed areas within the limits of the right-of-way. The holder is responsible for consultation with the authorized officer and/or local authorities for acceptable weed control methods (within limits imposed in the grant stipulations).

f. The holder shall seed all disturbed areas, using an agreed upon method suitable for the location. Seeding shall be repeated if a satisfactory stand is not obtained as determined by the authorized officer upon evaluation after the following growing season. The holder shall seed all disturbed areas with the seed mixture(s) listed below. The seed mixture(s) shall be planted in the amounts specified in pounds of pure live seed (PLS)/acre. There shall be no primary or secondary noxious weed seed in the seed mixture. Seed shall be tested and the viability testing of seed shall be done in accordance with State law(s) and within six months prior to purchase. Commercial seed shall be either certified or registered seed. The seed mixture container shall be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds have a tendency to drop to the bottom of the drill and are planted first. The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre noted below are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of the second growing season after seeding. The authorized officer is to be notified a minimum of seven days prior to seeding of the project.

Seed Mixture (Silty, Clayey or Silt Clay Loams)

The combination must include at least four of the following species. Western wheatgrass must be included in the mix. Thickspike wheatgrass may be substituted for wheatgrass only when western wheatgrass is unavailable.

Species of Seed	***(Variety)***	***Common Name***	***Pounds/acre *(PLS)***
Pascopyrum smithii	(Rosanna)	Western wheatgrass	3.00
Pseudoroegneria spicata	(Goldar)	Bluebunch wheatgrass	2.00
Stipa viridula	(Lodom)	Green needlegrass	2.00

Elymus trachycaulus (Pryor)	Slender wheatgrass	2.00
Stipa comata	Needleandthread	1.00
Bouteloua curtipendula	Sideoats Grama	2.00
Schizachyrium scoparium	Little bluestem	2.00

**Pure Live Seed (PLS) formula: % of purity of seed mixture times % germination of seed mixture = portion of seed mixture that is PLS.*

g. Holder shall remove only the minimum amount of vegetation necessary for the construction of structures and facilities. Topsoil shall be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation.

h. The grant is issued subject to the holder's compliance with the mitigations set forth in the application and plan of development.

i. Prior to any discharge, hydrostatic testing water will be tested and processed, if necessary, to ensure that the water meets local, State or Federal water quality standards. Prior to discharge of hydrostatic testing water form the pipeline, the holder shall design and install a suitable energy dissipator at the outlets, and design and install suitable channel protection structures necessary to ensure that there will be no erosion or scouring of natural channels within the affected watershed as a result of such discharge. The holder will be held responsible for any erosion or scouring resulting from such discharge. Sandbags, rock, or other materials or objects installed shall be removed from the site upon completion of hydrostatic testing.

j. During conditions of extreme fire danger, operations shall be limited or suspended in specific areas, or additional measures may be required by the authorized officer.

k. Except rights-of-way expressly authorizing a road after construction of the facility is completed, the holder shall not use the right-of-way as a road for purposes other than routine maintenance as determined necessary by the authorized officer in consultation with the holder.